Thirty-seven cases hospitalized in the Los Angeles County Hospital were studied. Clinical symptoms are influenza-like, with a superimposed maculo papular rash appearing the third to the sixth day. The case fatality rate of endemic typhus averages less than 5 per cent.

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CLINICAL NOTES AND CASE REPORTS

MEDICAL AID IN THE U.S.S.R. ARMY*

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IN a previous article published in CALIFORNIA AND WESTERN MEDICINE, in December, 1941 (page 304), I quoted from the well-known Doctor Burdenko who stated that total warfare, as carried on today, has transformed medical service in the army to an extent heretofore undreamed. Indeed, modern war creates innumerable problems different from those encountered during periods of peace.

Total warfare brings with it casualties previously unknown. Thermal injuries, blast and crush injuries, such are the nomenclature of modern multiple wounds, with marked tissue destruction and contamination resulting in early virulent sepsis. Considerable attention was paid to the prevention of frostbite in the Russian counter offensive which took place last winter. Brigadier Surgeon Professor Gorinevskaya emphasizes the fact that she does not know of a single case of a wounded man contracting frostbite during evacuation. The use of heated ambulances, as well as frequent and warm feeding stations set up along ambulance routes, reduced frostbite casualties tremendously. Soldiers at the front afflicted with frostbite were treated by the open section method, with the help of physiotherapy, and with prophylactic injections of antitetanus serum.

There is no question but that the difficulties and complexities of modern warfare require a streamlined, efficient approach. How well the Red Army medical service is coping with the situation is illustrated in an article written by the same Brigadier Surgeon Gorinevskaya. She relates that the Red Army medical service has an extensive network of medical and surgical set-ups on evacuation routes with highly qualified physicians in charge of each of these stations. Medical personnel is trained to render adequate care under any condition, in tents, huts, dug-outs, etc.

Many lives have been saved by supreme devotion on the part of medical personnel and the civilian population. Its blood transfusion service is indeed a bright page in the history of Soviet military medicine. It has blood banks in practically every city. Blood in thermostats is speedily dispensed by airplane to any emergency point. Obviously, rapidity is essential in reducing death from anaerobic gas-infection by timely injection of prophylactic and curative serums, and by surgical intervention. As a result of this treatment, 70 per cent of hospitalized wounded have been restored to active duty.

The heroism of the doctors has been noteworthy. For example, once while Professor Vichnevsky was operating on an army officer, an enemy plane shot the officer in the leg. The surgeon calmly completed the original operation, then immediately proceeded to the second and extracted the bullet. This doctor also drew blood from his own vein during an operation in order to save the life of a young girl injured when an air-raid shelter was blown to pieces by a direct hit.

It is interesting to note that Soviet hospitals are highly specialized, each receiving casualties of a particular type of wound. Such specialization has been fully justified. Figures show that, compared with the war of 1914-18, death casualties from all causes in the present war have dropped 33 per cent. Casualties from head, jaw and thorax wounds have dropped 50 per cent, and those from injury to the spinal column 80 per cent.

In spite of being tremendously overworked, Soviet doctors have never lost their interest in scientific work. Conferences are frequently held, experiences exchanged, analyzed, summarized and, as a result, form a sound basis for the development of field surgery. Doctor Yudin recently reported a method of treating brain concussion that resulted in complete recovery in the majority of cases. Military Surgeon Shefter reported treatment of severed nerves by grafting specially-treated segments of animal nerve tissue. Dr. Davidov invented a method of freezing blood plasma for transportation and storage. Professor

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* Information contained herein has been secured through personal correspondence with Russian colleagues, from Russian medical journals, and from the "Information Bulletin" of the Embassy of U.S.S.R.

In humans, sulfonamide-resistant organisms have been reported in pneumococcal pneumonia and meningitis, and recently a fatal case of type seven pneumococcal endocarditis has been reported in which the organism became highly resistant to sulfapyrazine.[2] Prolonged contact between the organisms and the sulfonamides seemed necessary for the development of a high degree of resistance in these cases. Insensitive strains of gonococci have been found to respond poorly to sulfonamide therapy.[3] An interesting recent report from England describes wound infections in a plastic surgery ward, caused by resistant hemolytic streptococci (Lancefield Group A, type 12).[4]

Experiments of one group indicated that gonococci were capable of becoming resistant to sulfanilamide, but not to sulfathiazole; but this statement has been challenged by others, who have isolated sulfathiazole-insensitive strains from patients.[3] Quantitative studies indicate that the development of sulfonamide resistance represents an interaction between the organisms and the one common structural unit of all the sulfonamides, namely the p-amino nucleus, and it seems probable that all organisms susceptible to the bacteriostatic action of the sulfonamides are capable of becoming resistant to all of the sulfonamides.[5] It is for this reason that, in subacute bacterial endocarditis, in which prolonged therapy presumably produces a high degree of resistance, changing from one sulfonamide to another causes no beneficial effect.

The future importance of sulfonamide resistance is uncertain. However, since well established resistance is apparently retained indefinitely, it is conceivable that widespread epidemics might be caused by drug fast bacteria. The therapy of infections, due to insensitive organisms, is thus a challenging problem. It is in such situations that the new agents, penicillin and gramicidin, may find their greatest usefulness, especially in superficial infections caused by gram positive organisms. The rôle of pneumococcal serum in destroying resistant pneumococci is not yet known. These and other therapeutic problems have yet to be studied experimentally and clinically. However, from the standpoint of the practicing physician, it is important to realize that the phenomenon of sulfonamide resistance does exist, and the physician should keep it in mind, in treating patients who do not respond to sulfonamides in the usual manner.

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Medical Aid in U.S.S.R. Army

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Smorodintsev and his staff have made important contributions to the early diagnosis of typhus. Other experiments include work on the sterilization of air and the production of liquid oxygen.

The world of medicine has been enriched by discoveries such as these: A soluble preparation of sulphidine, an x-ray device which facilitates the location of foreign bodies in the human organism, a synthetic oil of balsam, and a method of producing antityphus vaccine in large quantities. Other discoveries are being added constantly.

Doctors serving with guerilla detachments behind the German lines combine medical work with fighting. They have contributed this observation to the art of medicine: that the wounded who were compelled to be continuously on the move progressed more favorably than those who could follow the traditional method of enforced rest. Other surprising revelations have been set forth by Professor A. Bogomolets, president of the Ukrainian Academy of Sciences. This savant claims that man's normal life span should be about 150 years. He and his son have prepared an antireticular cytotoxic serum, small doses of which stimulate the system of connective tissue. Their theory is that the struggle for normal longevity is, in the first place, a struggle for healthy connective tissue. The serum is used for accelerating the knitting of broken bones by producing a stimulating effect on the growth of osteoplasts. Its usefulness has been proven in the treatment of delayed healing of ulcers and in combating infections.

Unfortunately, Bogomolets' interesting studies were interrupted with the sudden invasion of Russia by the German barbarians. All scientific institutions immediately reorganized their work to pursue the only purpose of all scientific institutions and all citizens of Russia, to defend their country until the utter defeat of Nazi Germany, thus contributing to the struggle for democracy for all nations whose very existence, science and culture are threatened. The years of patriotic war have shown that the medical profession of the Soviet Union is productive of bold, daring ideas and indefatigable in research.

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Educational Requirements of Medical Schools

The tremendous demand for physicians made by the military forces has caused the suggestion that the educational requirements of our medical schools be relaxed, so that doctors may be produced in a shorter period of time. If that suggestion was widely followed, one result would be inevitable—a definite decline in the quality of medical service given the American people. The time required for graduation from an accredited school of medicine, coupled with the hard, continuous application required of students, is our best guarantee of adequate service. Before we lower the standards, which are low enough now, an effort should be made to solve the problem. This problem involves the health of the Americans of tomorrow, no less than of those of today.